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TEAT CONDITION SCORING

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Teat condition scoring is a valuable tool that has virtually no cost. Teat condition scoring, particularly on the teat end, can provide a heads-up on problems with milking machine settings, the concentration of germicidal teat dips or the cow's environment. Quick action to find the cause of poor teat condition will reduce somatic cell counts and clinical mastitis, saving time and treatment costs.

Research has shown that poor teat condition can reduce milk yields and increase milking times. This is an incentive to monitor and maintain teat condition. In a recent study, teats were exposed to chemically induced chapping conditions and milked with automatic take-off clusters. Researchers observed that as teat condition worsened, milk yield dropped 3.6%–8.5%, and milking time increased 1.3–2 min, or 26%–51%. As teats healed, milk yield began to improve, and milking time shortened.

To perform teat condition scoring, use a flashlight to see the teats and teat ends clearly. Always use clean hands or gloves when handling teats. Teat condition scoring should be part of the milking routine so cows will get used to the extra handling of their teats. Inspect the whole teat barrel and teat end closely, and compare each teat with other teats on the udder, as well as with those of other cows.

Pigmented or black teats are harder to score. They may appear drier, since flaking of the skin is more visible. Focus on the teat's lighter-coloured areas if possible.

Milking machine-induced damage to teats can take the form of discoloration, such as edema (blue or purple tinge), congestion (redness), wedging of the teat end or rings that appear on the teat after unit detachment. More serious damage can occur where blood vessels have ruptured and blood has pooled under teat skin. This can appear as small red spots or larger, more obvious bleeding under the skin.

Teat-end damage may also be visible from a condition called hyperkeratosis, usually brought on by overmilking. Hyperkeratosis is the protrusion of keratin that lines the teat canal and appears in a ring around the teat end. When the keratin ring becomes cracked and rough — or, in more severe cases, turns hard and black — it creates the perfect environment for contagious mastitis-causing pathogens such as *Staphylococcus aureus* to thrive. It also indicates that there may be a problem with the milking equipment or settings. The degree of hyperkeratosis depends on age and lactation stage as well as teat shape. Pointed teats may be more susceptible to hyperkeratosis than inverted teats.

Signs of trauma to the teat brought on by the cow's environment can include weather damage such as chapping or sunburn, bug bites or allergic reactions. Other possible causes include cuts or abrasions to the teat from being stepped on or from biting and suckling. Wait for up to a week to score cows that have just calved to allow damage caused by calves to clear up.

Studies have shown that organisms causing environmental mastitis, such as coliforms and *Klebsiella spp.*, are more prevalent in sawdust bedding. *Streptococcus spp.* can be present in large populations in sand. Cracked skin, cuts and abrasions from environmental damage will easily harbour these organisms on the teat as soon as the cow lies down on dirty bedding. The organisms would then contaminate milk going into the tank during milking or cause new mastitis infections to occur.

Keeping records of teat condition scores and types of teat damage for each cow is important. Trends or patterns in the herd, a group or even an individual cow may appear. There may also be seasonal problems that require more attention at certain times of the year.

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Tolerable levels for teat abnormalities

- Fewer than 10% of cows with light-coloured teats have one or more teats that are visibly reddened or tinged with blue.
- Fewer than 10% of cows have one or more teats with marked swelling or palpable rings.
- Fewer than 20% of cows have one or more teat ends classified as firm, hard or swollen, or severely wedged.
- Fewer than 10% of cows have one or more teat orifices classified as open.
- Fewer than 5% of cows have hemorrhaging on one or more light-coloured teats.
- Fewer than 2% of cows have open lesions, including chapped skin or cracks on the teat, on one or more teats.
- Fewer than 20% of cows have one or more teat ends that are scored rough or very rough.
- Fewer than 2% of teats should be very rough.

— Adapted from Hillerton, J.E. 2005. *Teat Condition Scoring — An Effective Diagnostic Tool.* National Mastitis Council Regional Meeting Proceedings (Burlington, Vermont), p. 42.

The best time to check for environmental impact on teat condition is before milking begins. Disinfectant and milk soften the teat skin, making it harder to score for hyperkeratosis and chapped skin. Freezing or dry conditions during winter months may worsen teat condition, but environmental damage can occur in any season. Scoring teats should be a regular routine throughout the year.

It's best to check for machine-induced damage within the first minute after unit detachment. Edema, congestion and hemorrhaging or blood pooling in spots under the teat skin will be most obvious. Some hemorrhaging can show up later after milking has finished.

Record cow identification number and teat location along with any abnormal condition observed. Keep teat condition scoring simple. For example, group teat conditions into categories:

- **Teat Skin — Normal or Discoloured** (indicating either red- or blue-tinged)
- **Teat Skin — Normal or Cracked** (indicating chapped, bitten or cut)
- **Teats — Normal or Swollen** (indicating swelling, hardness or wedging of teat end)
- **Teat End — Smooth, Rough or Very Rough** (indicating severity of hyperkeratosis at the teat end)

Another way to track the severity of abnormal teat condition is to assign a number, just as in body condition scoring. Numbers would indicate less severe to most severe.

Some abnormal teat conditions are expected in a herd and may be unavoidable, such as abnormally shaped teats or some environmental impacts. Reduce environmental impacts by making dry, clean bedding available and reducing teat exposure to extremely cold temperatures and wind. Keep the milking system maintained and ensure the vacuum levels and automatic take-off settings are properly set.

Using the right concentration and type of teat product for the season is essential as well. Choose a teat dip that will effectively disinfect teats and keep them supple; a product containing 5%–10% emollients works well. Make sure the teat dip is mixed thoroughly in the storage container before refilling dip cups. If your hands are irritated or damaged from using teat dip, then the cow's teats will also be irritated and damaged.

Just as body condition scoring is proving useful to help cows become more healthy and productive, teat condition scoring can achieve these same goals and improve milk quality.

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